

USSR

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SYCHEVA, S. P., and EIDEL'MAN, Z. M.

"The Effect of Insecticides on Photophosphorylation and the Hill Reaction"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 1, 1970, pp 240-243

Abstract: The insecticides used in this study were: lindane (LN), methylmercaptophos (MMP) and methylintrophos (MNP). Chloroplasts, obtained from the young top leaves of a pea plant were incubated in a medium at pH 7.9, to which insecticides were added. Reactions were studied after exposure of mixtures to light. The intensity of phosphorylation was measured by the diminution of phosphorus, and the intensity of the Hill reaction by the regeneration of ferrocyanide, determined spectrophotometrically. Experimental results show that lindane is the most powerful inhibitor of cyclic phosphorylation. In the Hill reaction lindane is powerful in pseudocyclic phosphorylation and less powerful in others. MNP is the most toxic, markedly inhibiting both non-cyclic and pseudocyclic phosphorylation. MNP inhibits photosynthesis, but is weak in cyclic phosphorylation in the Hill reaction MNP is strong in cyclic phosphorylation and weak in others.

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SYCHEVA, S. P., et al., Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 1, 1970, pp 240-243

In the Hill reaction, MNP is entirely negative in non-cyclic phosphorylation, weak in cyclic phosphorylation and somewhat active in pseudocyclic phosphorylation. Generally the Hill reaction is more sensitive in the presence of phosphate acceptors, which necessitates further study.

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UDC 669.71.018.29.621.785.362

BOCHVAR, O. S., KUNYAVSEAYA, T. M., KIRPA, I. G., PCHELIN, A. T., EKHINA, Ye. V.

"Influence of the Initial Macrostructure of the Ingot on the Nature of Softening During Annealing of Sheets of Technical Aluminum"

Metalloved. Splavov Legkikh Met. [Metal Science of Light Metal Alloys -- Collection of Works], Moscow, Nauka Press, 1970, p.11-15. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 1662 by the authors).

Translation: The influence of the type of initial macrostructure of an ingot, macrograin size, and relationship of Fe and Si impurities on the mechanical properties and structure of cold-rolled Al sheets after annealing is studied. The hereditary influence of the type of casting structure of the ingot on the microstructure of annealed sheets is demonstrated, as well as the influence of grain size of the macrostructure of initial ingots on the displacement of the temperature of the beginning of intensive softening. 2 figs; 1 table.

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USSR

UDC 669.716:621.785.3

BOCHVAR, O. S., KUNYAVSKAYA, T. M., KIRPA, I. G., PCHELIN, A. T., and
EKHINA, Ye. V.

"The Effect of the Initial Macrostructure of the Ingot on the Weakening Character In Annealing Sheets of Industrial Aluminum"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 11-15, resume

Translation: Effects of the type of macrostructure of the initial ingot, the size of the macrograin, and also the relation of iron and silicon admixtures after annealing on the mechanical properties and structure of cold-rolled aluminum sheets after annealing are discussed. The hereditary effect of the type of cast structure of the ingot on the microstructure of annealed sheets is demonstrated, as is the effect of macrostructure grain sizes of initial ingots on the shift in temperature of the beginning of intensive weakening. Two figures, one table.

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USSR

UDC 577.164.2:612.45:612.014.45

EKKE, Kh. V., and VIRU, A. A., Chair of Sports Medicine, and Problem Scientific Research Laboratory on the Fundamentals of Muscular Activity, Tartu State University

"Change in the Ascorbic Acid Content of the Adrenal Cortex in Rats Subjected to the Combined Action of Prolonged Physical Stress and Changes in Ambient Temperature"

Moscow, Biologicheskiiye Nauki, No 9, 1970, pp 40-42

Abstract: The combined effect of prolonged exercise and temperature changes was studied in rats. The test animals were required to swim steadily for 4.5 hours at a water temperature of $+30^{\circ}\text{C}$ or for 18 hours at 7°C and were then chilled, in some cases after intramuscular injection of ACTH. The ascorbic acid content of the animals' adrenal cortex decreased to 156 ± 31 mg/100 g of tissue after swimming and to 205 ± 9 mg/100 g after chilling. Although the mean decrease in ascorbic acid content was greater after swimming than after chilling, there was no cumulative effect of the stressors. The ascorbic acid content of the adrenals decreased sharply (to 102 ± 12 mg/100 g) in those animals that receive an injection of ACTH (4 units) before exposure to cold. It is concluded that a change in ambient temperature after prolonged physical exertion does not produce a further

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EKKE, Kh. V., et al, Biologicheskiye Nauki, No 9, 1970, pp 40-42

decrease in the ascorbic acid content of the adrenals because of either functional depression of ACTH secretion or an inability of the adrenal cortex to react to ACTH.

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USSR

UDC 681.332.65

EKMANIS, Ya. Ya., ERGLIS, U. Yu.

"Controlled Decade Frequency Divider with Variable Division Factor"

USSR Author's Certificate No. 270354, Filed 13/02/69, Published 21/08/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 5, 1971, Abstract No. 5B245P).

Translation: The purpose of the invention is to increase the maximum permissible repetition frequency of input pulses. In the controlled multistage frequency divider suggested, this purpose is achieved by peculiarities in the construction of each decade and the special structure of the connections between decades.
1 fig.

1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PARAMAGNETIC RELAXATION IN LITHIUM RADIATION COLLOIDS -U-
AUTHOR-(03)-EKMANIS, YU., VITOLS, A., SVARCS, K. E
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(2), 487-91
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--COLLOID, LITHIUM FLUORIDE, NEUTRON IRRADIATION, EPR SPECTRUM,
LINE WIDTH, PARTICLE SIZE, SPIN LATTICE RELAXATION, IONIC CRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1615 STEP NO--UR/0181/70/012/002/0487/0491
CIRC ACCESSION NO--AP0054465
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054465

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RADIATION COLLOIDS WERE CONSIDERED OF LI IN REACTOR IRRADIATED LIF CRYSTALS BY EPR METHODS AS WELL AS ELECTRON MICROSCOPY. THE EPR LINE WITH WIDTH ΔH SMALLER THAN OR EQUALS TO 50 G CORRESPONDS TO LI COLLOIDS. FOR COLLOIDS WITH A DIAM. ϕ SMALLER THAN 1-2 μ , A VERY EFFECTIVE MECHANISM OF LINE BROADENING IS SURFACE RELAXATION. THE PROBABILITY OF SPIN REVERSAL ON THE SURFACE AND THE TIME OF SPIN LATTICE RELAXATION ARE 10^{-4} PRIME AND 10^{-6} PRIME NEGATIVE SEC, RESP. FACILITY: INST. FIZ., RIGA, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ABSORPTION SPECTRA AND SIZE OF COLLOIDAL CENTERS IN SODIUM AND
POTASSIUM CHLORIDE CRYSTALS -U-
AUTHOR--(05)-SHVARTS, K., EKMANIS, YU.A., UDOD, V.V., LYUSHINA, A.F.,
TILIKS, YU.YE.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(4) 879-84
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ABSORPTION SPECTRUM, SODIUM CHLORIDE, POTASSIUM CHLORIDE,
OPTIC PROPERTY, CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0580

STEP NO--UR/0181/70/012/003/0879/0884

CIRC ACCESSION NO--AP0105563

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105563

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COLLOIDAL CENTERS WERE INVESTIGATED IN ELECTROLYTICALLY COLORED NaCl AND KCl CRYSTALS WITH THE APPLICATION OF OPTICAL, ELECTRON MICROSCOPIC, AND CHEM. METHODS. COMPARISON OF THE EXPTL. ABSORPTION SPECTRA OF COLLOIDAL PARTICLES WITH THOSE CALCD. BY THE MIE THEORY WITH THE ACCOUNT OF EXPTL. DISTRIBUTION OF THE PARTICLES OVER DIMENSIONS FOR NaCl AND KCl CRYSTALS GAVE A GOOD COINCIDENCE. THIS IS A DIRECT PROOF OF THE VALIDITY OF THE MIE THEORY FOR THE DESCRIPTION OF OPTICAL PROPERTIES OF COLLOIDAL PARTICLES IN IONIC CRYSTALS. THE COLLOIDAL CENTERS WITH RADIUS GREATER THAN 600 ANGSTROM ARE REPRESENTED WEAKLY IN THE OPTICAL SPECTRUM, THOUGH SUCH PARTICLES IN ELECTRON MICROSCOPIC INVESTIGATION WERE OBSD. IN ALL CRYSTALS. COLLOIDAL PARTICLES ARE QUITE UNIFORMLY DISTRIBUTED OVER THE CRYSTAL, AND MORE SO IN NaCl THAN IN KCl CRYSTALS.

UNCLASSIFIED

USSR

UDC 678.84.01:537

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BAZHENOVA, T. S., PAKHOMOV, V. I., ZHDANOV, A. A., POLYAKOVA, L. L.,
SMIRNOVA, L. N., EKSANOVA, N. D., and TARASOV, Ye. V.

"Electric Properties of the Epoxyorganosilicon Resin ES-9 and Compounds
Based on This Resin"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 21-23

Abstract: Results are reported of the study of electric properties of the compounds based on dianic resin ED-5, polyfunctional resin ETP and epoxy-siliconorganic resin TPE-9 containing triphenylpentamethoxytrisiloxane [resin ES-9]. It was shown that the ES-9 resin is a good, active solvent for compounds based on any epoxy resin prepared for electrotechnical utilization. The ES-9 resin lowers considerably the starting viscosity of the epoxy binder preserving at the same time all of the desired electric properties of epoxy compounds both under normal usage as well as during prolonged heating, increased humidity, and elevated temperature.

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USSR

UDC 678.643.01:53

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GOLUBENKOVA, L. I., DEMEKHINA, YE. M., CHIBISOVA, YE. I., SMIRNOVA, L. N., EKSANOVA, N. D., and YUDIN, V. F.

"Binders for Fiberglass-reinforced Plastics Based on Epoxy Resin ETF"

Moscow, Plasticheskiye Massy, No 6, 1970, pp 13-15

Abstract: In order to increase the thermostability of fiberglass-reinforced plastics, work is being done to create binders based on epoxy resins which differ in structure from diene resins, primarily cycloaliphatic and polyfunctional epoxy resins. Polyfunctional resin ETF, which is the product of the interaction of 1,1,3-tri-(hydroxy-phenyl)-propane and epichlorohydrin, has a molecular weight of 540-700 and contains 20-24 percent epoxy groups. Hardening of this resin with amine or acid hardeners makes it possible to obtain specimens possessing higher thermostability than diene epoxy resins. The greatest bending strength is found in specimens hardened with aniline-phenol-formaldehyde resin 211, the greatest compression strength in specimens hardened with maleic anhydride. Aniline-phenol-formaldehyde

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GOLUBENKOVA, L. I., et al., *Plasticheskiye Massy*, No 6, 1970, pp 13-15

resin 211 was chosen as the main hardener. The binder representing a composite of resins ETF and 211 has been given the brand designation T-71-S. Since resin ETF softens in the 35-55° C range, it can be used for the "dry" process of fiberglass-reinforced plastics manufacture. The properties of the binder applied to the glass cloth, as well as of the resultant fiberglass-reinforced plastics depend on the character of the solvent used to impregnate the glass filler and the storage conditions for the impregnated cloth.

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USSR

UDC 621.374.33

PASHKOVA, T. M., LITVINOVA, A. R., POTROSOV, V. V., and EKSLER, A. A.

"Classification and Comparative Analysis of Threshold Units Based on Semiconductor Devices"

V sb. Tunnel'n. diody v vychisl. i izmerit. tekhn. (Tunnel Diodes in Computer and Measurement Technology -- collection of works), Riga, "Zinatne", 1972, pp 15-36 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 G181)

Translation: Existing types of classification are studied. The authors propose a new type of classification and conduct analysis of threshold units based on semiconductor devices. A prospective group of threshold units is singled out which is based on tunnel diodes and methods are given for expanding the application of tunnel diodes in threshold units. Original article: seven bibliographic entries. Resume.

1/1

USSR

UDC 535.231.4

AGABABOV, S. G. and EKSLER, L. I., Moscow Power Institute

"Influence of the Geometric Characteristics of the Surface Relief of a Solid on Its Radiation Properties (by Determination of the Roughness Factor). I. Theory"

Moscow, Teplofizika Vysokikh Temperatur, Vol 9, No 3, May-Jun 71, pp 522-526

Abstract: For a solid whose surface has random roughness, the authors investigate a procedure for computing the roughness factor that takes into account the influence of the surface relief on the radiation properties of the body. They suggest computing the roughness factor from the characteristics of a surface profilogram.

The authors state that the degree of blackness of a rough surface and the roughness factor are connected by an expression that is valid for thermally and optically uniform gray surfaces, with the radiation and reflection being of a diffusion nature.

The method described by the authors for computing \bar{R} or F has a general character. The values of F_m obtained thereby may be used in any cases in which it is necessary to know a true surface area with random roughness. The

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USSR

AGABABOV, S. G. and EKSLER, L. I., Teplofizika Vysokikh Temperatur, Vol 9,
No 3, May-Jun 71, pp 522-526

method can be employed in any case in which profilograms can be taken.

The article contains a bibliography of 13 titles.

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USSR

UDC 621.372.85

POLYAK, N.M., ERLICH, I.M., SHTEYNBAKH, B.D.

"Adhesions For Ferrite Microwave Devices"

V sb. Obmen opytom v radioprom-sti (Sharing Of Experience In Radio Industry--
Collection Of Works), Issue 4, Moscow 1971, pp 47-48 (from RZh-Radiotekhnika, No 9,
Sept 1971, Abstract No 9B136)

Translation: During polymerism of epoxy glues ordinarily used for fastening of ferrite bushings [vkladysh] to the armature in microwave devices, internal thermal stresses appear which are due to different temperature expansion coefficients of the ferrites and glue. It is possible to prevent formation of thermal stresses if cold hardening glue is used with the second-order transition temperature below an extremely low operating temperature. Data are presented on glues obtained on the basis of the FDI-3A oligomer [meaning unknown], characteristic of flexible hydrocarbon chains with terminal epoxy groups. 1 tab. 6 ref. N.S.

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USSR

UDC 669.24-12:548.7

EPShTeyN

SIKOROV, V. N., UMANSKIY, Ya. S., and ~~EPShTeyN~~ G. N., Moscow
Institute of Steel and Alloys

"Reduction of Some Properties of Nickel by Annealing After
Cold Deformation "

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metal-
lurgiya, No 11, 1971, pp 143-147

Abstract. The reduction after deformation of the electric re-
sistance, microhardness, and the physical line broadening
(311)_α in Ni (purity 99.98 %) was investigated. The presence
of the 3rd and the 5th stages of annealing was established. The
5th stage is dependent on the recrystallization. The microhard-
ness of specimens does not change before beginning recrystalliz-
ation. The activation energy of the 3rd stage
 $E_a^{3rd} = 1.03 \pm 0.05$ ev , corresponding to 60 % of the reduction of
electric resistance of the 3rd stage, is characterized by the
function

$\frac{1}{2} \Delta R_{3rd} / \Delta R = e^{k\sqrt{\tau}}$. The further change complies

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USSR

SIKOROV, V. N., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 11, 1971, pp 143-147

with kinetics of the 2nd order. It is supposed that the 3rd stage is effected by annealing of complexes of inter-lattice points of atoms by means of annihilation with monovacancies and on dislocations. Four illustr., nine biblio. refs.

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USSR

UDC 615.28:547.333.4

corrected as is

PANARIN, Ye. F., SOLOVSKIY, M. V., and EKZEMPLYAROV, O. N., Institute of High Molecular Compounds of the USSR Academy of Sciences, ~~Leningrad~~

"Synthesis and Antimicrobial Properties of Polymers Containing Quaternary Ammonium Groups"

Moscow, Khimiko Farmatsevticheskiy Zhurnal, Vol 5, No 7, July 1971, pp 24-26

Abstract: The synthesis and antimicrobial effect of copolymers of N-vinylpyrrolidone with (2-methacryloxyethyl)triethylammonium iodide and bromide are described. The degree of effect of the macromolecule, its size and the number of ammonium groups in it, is determined. The physical and chemical properties and antimicrobial activity of the mentioned copolymers are tabulated. With an increase in the proportion of the (2-methacryloxyethyl)-triethylammonium halides in the initial mixture, a reduction in the characteristic viscosity of the copolymer is observed. It was found that the polymers dissolve well in water in any ratio, and are strong polyelectrolytes.

The antimicrobial activity was determined by the method of serial dilutions using staph. aureus 209P and B.coli as the test culture. The values of the $1/2$

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PANARIN, Ye. F., et al., Khimiko Farmatsevticheskiy Zhurnal, Vol 5, No 7,
July 1971, pp 24-26

minimum bacteriostatic concentration for the monomers and copolymers of different composition and molecular weight are tabulated. The monomers turned out to be low-active compounds whereas their homopolymers demonstrated highest activity which in the case of the iodide exceeds the monomer activity by more than two orders. Copolymers with N-vinylpyrrolidone also exhibited noticeable activity which increased with an increase in the ammonium group content in the copolymer. Introduction of ammonium groups into polyvinylpyrrolidone did not lead to a sharp increase in toxicity.

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EL' BAYEVA, R. I.

UDC 669.018.24:620.183.2
STRUCTURE OF THE TRANSITION LAYER IN THE BIDENTAL STEEL-TIN BRONZE

[Article by R. I. El'bayeva, Khabardino-Balkarskiy State University, Department of Machine Construction Technology; Ordzhonikidze, Investigative UZ; Tsvetnaya Metallurgiya, Russian, No 6, 1971, signed to press 17 April 1971, pp 133-134]

Tin bronzes are used in the process of manufacturing bimetallic sleeve bearings; these bronzes are deposited in the form of a thin film onto the inner surface of the steel billet. One of the most productive and economical methods for manufacturing such bearings is the method of centrifugal babbling by melting the bronze chip inside the steel shell and heating with a high-frequency current. Heating with a high-frequency current ensures high rates of heat transfer and rapid melting of the light alloy. The investigation carried out showed that a high strength of adhesion of the metals and a good filled layer are ensured by heating at a rate of 200 per second.

In this paper we cite the results of investigating the transition layer in a bimetal of carbon steel-Bronze-5-5, which allow us to explain the character of bonding the metals in the bimetal obtained by high-velocity heating.

We investigated the test bars cut from various parts of bimetallic bushings with an outer diameter of 46 mm having a steel shell 3 mm thick and a fused layer of bronze 1.5-3 mm thick. The rate of rotation of the bushings was 1600 rpm; cooling was carried out in air. Prior to filling, the steel billets were treated on the inner surface of the cutting tool by producing a roughness of 0.3. The chemical treatment of the surface was done simultaneously by the process of heating, with melting of the fluxes appearing in the composition of the charge that possess good etching and reduction properties. The use of the proper fluxes in the presence of significant centrifugal pressure also facilitates

JPRS 55880

4 May 72

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Acc. Nr: AT0043974

ELBERT **A.I.**
Ref. Code: UK000001

PRIMARY SOURCE: Geofizicheskiy Sbornik, Kiev, 1970, Nr 33,
• pp 78-83

EL'BERT, A. I.; BRONSHTEYN, A. N.

**APPLICATION OF THE PERFORATED MAPS
WITH SYSTEMATIZATION AND ANALYSIS OF THE RESULTS OF DETERMINING
THE PHYSICAL PROPERTIES OF ROCKS**

(Geophysical Complex Expedition, Kiev)

Summary

The article deals with the state of studying the physical properties of crystalline rocks of the South-Western part of the Ukraine. It is recommended to apply the perforated maps for systematization of materials by the physical properties that makes it possible to widen considerably the volume of the obtained information and accelerate prospecting as well as facilitate the carrying out of the statistic correlation analysis. The information prospecting system developed by the authors is suggested for this purpose.

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REEL/FRAME
19770408

Feb 12

USSR

UDC 621.385.64

EL'BERT, A. Ya.

probably correct as is

"To An Engineering Calculation Of The Coupling Elements Of A Magnetron"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics.), 1970, No 5, pp 134-139 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A115)

Translation: An engineering calculation is given for the parameters of the coupling loops for the resonator systems of slot--orifice and segment types of magnetrons. Simple formulas are introduced by the electrodynamic method, which connect the parameters of the load, the wavelength, and the geometry of the coupling loops for both cases. Experimental verification of the formulas obtained confirmed that their precision was sufficiently high for practical calculations. Summary.

1/1

Plant Pathology

USSR

UDC 632.4:633.11:582.285.2(47+47)

LESOVY, M. P., FEDOROVA, V. A., SHKODEIKO, V. I., TERESHCHENKO, B. A.,
SHOPINA, V. V., IBRAGIMOV, G. R., AKHEDOV, S. A., YEROGOVA, E. L.,
MAMONTOVA, A. K., PERESYPKIN, V. P., BOYKO, Yu. I., SHAVARENKA, Z. A.,
CHUMAKOV, A. Ye., YAREMENKO, Z. I., PAYCHADEE, L. V., and BL'CHENKOV, A. A.,
All-Union Institute of Plant Protection, Ukrainian Institute of Plant
Protection, Ukrainian Agricultural Academy, Azerbaydzhan Institute of Agricul-
ture, Central Asian Institute of Plant Pathology, and Kazan' Institute of
Plant Protection, Georgian Institute of Plant Pathology

"Race Formation in *Puccinia triticina* Eriks. and *P. striiformis* West. in the
USSR"

Leningrad, Mikrobiologiya i Fitopatologiya, No 6, 1972, pp 499-534

Abstract: Study of the causative agents of orange leaf and stripe rusts of
wheat in different parts of the Soviet Union and some other European countries
showed that, despite the great variety of races, only a few are responsible for
epiphytotics. The main races are fairly constant from year to year. This
stabilization is due to the fact that more than 90% of all the regionalized
wheat varieties in the USSR are susceptible to all races of the pathogens. The
racial composition of the pathogens in the USSR is similar to that occurring
elsewhere in Europe because of the exchange of original forms and use of the
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USSR

LESOVOY, M. P., et al., Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

same components in breeding wheat varieties. The appearance of new races and biotypes and changes in their virulence are the result of mutation, heterokaryosis, resistant varieties, and sexual hybridization.

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF THE THERMAL CONDUCTIVITY OF LIQUID HYDROCARBONS BY
A COMPARATIVE METHOD -U-
AUTHOR--(03)-KERIMOV, A.M., ELDAROV, F.G., ELDAROV, V.S.
COUNTRY OF INFO--USSR *connect as is* **E**
SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(1), 77-80
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, METHODS AND EQUIPMENT
TOPIC TAGS--THERMAL CONDUCTIVITY, HYDROCARBON, THERMOCOUPLE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1573 STEP NO--UR/0152/70/013/001/0077/0080
CIRC ACCESSION NO--AT0116981
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0116981

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DIFFERENCE WAS DETD. BETWEEN THE SURFACES OF 2 CONCENTRIC CYLINDERS, BETWEEN WHICH WAS THE LIQ. OR GAS, WHOSE COND. WAS TO BE DETD. DIFFERENTIAL THERMOCOUPLES WERE USED TO DET. THE TEMP. THE MAIN ADVANTAGES OF THE METHOD WERE SIMPLICITY OF THE APP. AND DETN., SMALL AMT. OF SUBSTANCE FOR DETN., AND THE POSSIBILITY TO DET. THE COND. OF BOTH LIQS. AND GASES. THE DETN. PRECISION WAS 1.5PERCENT, INCLUDING THE ERRORS FOR CALIBRATION WITH STD. LIQS. AN APP. SCHEME AND RESULTS OF DETNS. ARE PRESENTED.

FACILITY: AZERB. PEDAGOG. INST. IM. LENINA, BAKU, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF THE THERMAL CONDUCTIVITY OF LIQUID HYDROCARBONS BY
A COMPARATIVE METHOD -U-
AUTHOR-(03)-KERIMOV, A.M., ELDAROV, F.G., ELDAROV, V.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UC EB. ZAVED., NEFT GAZ 1970, 13(1), 77-80
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, METHODS AND EQUIPMENT
TOPIC TAGS--THERMAL CONDUCTIVITY, HYDROCARBON, THERMOCOUPLE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1573 STEP NO--UR/0152/70/013/001/0077/0080
CIRC ACCESSION NO--AT0116981
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0116981
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DIFFERENCE WAS DETD.
BETWEEN THE SURFACES OF 2 CONCENTRIC CYLINDERS, BETWEEN WHICH WAS THE
LIQ. OR GAS, WHOSE COND. WAS TO BE DETD. DIFFERENTIAL THERMOCOUPLES
WERE USED TO DET. THE TEMP. THE MAIN ADVANTAGES OF THE METHOD WERE
SIMPLICITY OF THE APP. AND DETN., SMALL AMT. OF SUBSTANCE FOR DETN., AND
THE POSSIBILITY TO DET. THE COND. OF BOTH LIQS. AND GASES. THE DETN.
PRECISION WAS 1.5PERCENT, INCLUDING THE ERRORS FOR CALIBRATION WITH STD.
LIQS. AN APP. SCHEME AND RESULTS OF DETNS. ARE PRESENTED.
FACILITY: AZERB. PEDAGOG. INST. IM. LENINA, BAKU, USSR.

UNCLASSIFIED

USSR

UDC: 621.375.826+621.039.64

SIGEL, R., WITKOWSKI, S., BAUMHACKER, H., BÜCHL, K., ELDMANN, K.,
HORA, H., MENNICKE, H., MULSER, P., PFIRSCH, D., SALZMANN, H.

"Survey of Studies of Laser-Produced Plasmas at the Max Planck
Institute of Plasma Physics in Garching, West Germany"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972,
pp 37-44

Abstract: The paper is a survey of experimental and theoretical
research on laser-produced plasmas done at the Max Planck Insti-
tute of Plasma Physics in Garching. Experiments are described
on heating of a plasma by emission from a neodymium laser with
energy of 30 J and pulse duration of approximately 30 ns. The
plasma temperature was measured by a filter method; the time of
flight and average kinetic energy of the ions were measured by
probes. A laser with a single pulse lasting a few picoseconds
is described. The results of theoretical studies done on com-
puters are presented. [The article is a brief version of a paper
presented to the editors by the organizational committee of the

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USSR

SIGEL, R. et al., Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 37-44

International Conference on Laser-Produced Plasmas, Moscow, 1970.
Translation by A. S. Shikanov.] Nine illustrations, bibliography
of seven titles.

2/2

- 40 -

Acc. Nr:

ELGART
AP0051956

R. Ye.

Ref. Code: **UR0297**

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3 , pp 224-228

EFFECT OF MINERAL PHOSPHORUS ON PRODUCTION OF LEVORIN AND FATTY
ACIDS BY ACTINOMYCES LEVORIS KRASS

I. I. Belousova, Ye. B. Lishnevskaya, R. Ye. Elgart, I. M. Tereshin

Leningrad Institute for Antibiotics

Addition of inorganic phosphorus to corn steep liquor media and 24- or 48-hour fermentation broths, in which mycelium of Act. levoris Krass, 26/I was grown decreased the synthesis of levorin, the decrease being more pronounced on addition of phosphorus to fermentation broths than to the initial medium. Glycerophosphate also inhibited the antibiotic production by the mycelium grown in fermentation broths of various age, while to a lesser extent than an equivalent amount of mineral phosphorus. A decrease in the synthesis of levorin by the mycelium under the effect of phosphorus added to the fermentation broth was accompanied by an increase in production of fatty acids and incorporation of radioactive acetate to them.

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REEL/FRAME
19820443

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--POLARIZATION EFFECTS DURING THE PHOTOPRODUCTION OF ELECTRON
POSITRON PAIRS WITH A CALCULATION OF ELECTROMAGNETIC MULTIPOLE NUCLEAR
AUTHOR-(02)-KERIMOV, B.K., ELGAVKHARI, A.

COUNTRY OF INFO--USSR

~~Author, YELGAVKHARI~~

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 204-9

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PAIR PRODUCTION, ELECTRON POLARIZATION, GAMMA RAY, CIRCULAR
POLARIZATION, BORON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1991/1044

STEP NO--UR/0048/70/034/001/0204/0209

CIRC ACCESSION NO--AP0110734

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0110734

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GENERAL FORMULA OF THE DEGREE OF LINEAR POLARIZATION OF E PRIMENEGATIVE-E PRIMEPOSITIVE PAIRS (S SUBPOSITIVE EQUALS S SUBNEGATIVE EQUALS 1 OR MINUS 1, AND S SUBNEGATIVE EQUALS MINUS S SUBNEGATIVE EQUALS 1 OR MINUS 1) IS CALCD. FOR CIRCULARLY POLARIZED GAMMA RAYS. THE NUCLEUS PRIME11 8 IS CONSIDERED AS AN EXAMPLE.

UNCLASSIFIED

UDC 612.84

USSR

CHORAYAN, O. G. and EL'-GOKHARI, M., Rostov State University

"Variability of Evoked Activity of Neurons"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 8,
1973, pp 36-38

Abstract: Statistical analysis of interspike intervals in the background and evoked activity of 16 nerve cells in the tectum of frog mesencephalon following adequate photic stimulation showed that in most cases the coefficient of variation of evoked activity increased significantly ($P < 0.01$), whereas decreases in the same parameter were not significant statistically ($P > 0.1$). An increase in the coefficient of variation of evoked activity was usually accompanied by an increase in entropy of the spike train. The time dynamics of the neuronal responses to repeated stimulation exhibited a similar pattern.

1/1

- 61 -

USSR

UDC 533.6.011

KUTUKHIN, V. P., FEDOROVA, L. D., EL'GUDINA, B. A.

"Study of the Optimal Form of Lifting Bodies in a Hypersonic Flow"

Uch. zap. Tsentr. Aerogidrodinam. In-ta. [Scientific Writings of Central Institute of Aerodynamics and Hydrodynamics], Vol 3, No 3, 1972, pp 100-106, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B336).

Translation: A method of direct variation is suggested for determination of the shape of a body of fixed volume with fixed lift, having minimum drag (or a body with maximum aerodynamic quality): the surface of the body is represented by exponential polynomials, the coefficients of which are determined by a system of algebraic equations. The pressure of the flow is determined using Newton's law, the friction resistance -- using a mean coefficient which is independent of the shape of the body. The results are presented from calculations for conical bodies, from which it follows that the angle of attack, read from the plane of the leading edges, changes little with changing lift factor, but the shape of the cross section does change with changing lift factor. The lower surface of the body may be either concave or convex. 9 Biblio. Refs.

1/1

USSR

UDC 533.652/.661.013

BLAGOVESHCHENSKIY, N. A., KOSTYUK, K. K., EL'GUDINA, B. A.

probably correct

"Experimental Investigation of the Effect of the Reynolds Number on the Aerodynamic Characteristics of a Wing-Fuselage Combination at Mach Eight"

Uch. zap. Tsentr. aero-gidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamics Institute), 1970, 1, No 6, pp 58-66 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10B240)

Translation: This paper presents the results of an experimental study of schematized models of a maneuverable hypersonic aircraft at Mach eight. Rough calculations of the quantity K_{\max} for a change in the Reynolds number over the range of $2 \cdot 10^5$ - $2 \cdot 10^6$ are compared with the experimental results. Possible methods of reducing the losses of K_{\max} in pitch balancing are considered. Authors' abstract.

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USSR

UDC 629.78.018.1

BLAGOVESHCHENKIY, S. A., KOSTYUK, K. K., EL'GUINA, B. A.

"Experimental Study of the Effect of Reynolds Number on the Aerodynamic Characteristics of the Wing-Body Combination at $M = 8$ "

Uch. zap. Tsentr. aero-gidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1970, Vol. 1, No. 6, pp 58-66 (from RZh-Raketo-stroyeniye, No 9, Sep 71, Abstract No 9.41.74)

Translation: The results of an experimental study of schematic models of a maneuverable hypersonic aircraft at $M = 8$ are given. A comparison is made with the results of estimated calculations of the value of K_{\max} for a change in the Reynolds number in the range $2 \cdot 10^5 - 2 \cdot 10^6$. Possible methods of reducing losses in K_{\max} to balance the pitching moment are discussed. 9 ill., 5 ref. Resume.

1/1

USSR

UDC 531.74.(017)(083.76)

BOGUSLAVSKIY, M. G., ~~ELIASBERG, B. M.~~, SHAROVA, Ye. Ye., and MEDOTIOVA, L. I.

"State Primary Standard Unit of a Plane Angle -- the Radian"

Moscow, Izmeritel'naya Tekhnika, No 7, 1972, pp 9-10

Abstract: A complex of equipment for reproducing and storing the unit of a plane angle equal to 2π rad, or a part thereof, and for transmitting the size of the unit, by means of secondary standards and standard measurement facilities, to operating measurement facilities, was developed and tested in 1970. The State primary standard unit of a plane angle comprises a complex of the following measuring equipment: a 36-faced prism, produced at the All-Union Scientific Research Institute of Metrology in 1958; a standard gonionetric autocollimation unit consisting of photoelectric autocollimators with an electronic digital readout device, and a device for holding and turning the polyhedral prism. 36-faced prism No 1 has been certified on the State primary standard. The mean-square error of the measurement result did not exceed 0.02". The new primary standard facility has been ratified in January, 1972 at a meeting of the Gosstandart, USSR as the State primary standard unit of a plane angle. 4 figures.

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USSR

UDC 551.511

ELIASSEN, A.

"On Mesoscale Mountain Waves of Low Amplitude"

Tr. 2-go Tokiysk. simpoz. po chislen. metodam prognoza pogody, 1968 (Works of the 2d Tokiyskiy Symposium on Numerical Methods of Weather Forecasting, 1968), Leningrad, Gidrometeoizdat, 1971, pp 73-76 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1418)

Translation: Atmospheric waves of length 100-1000 km were investigated, i.e., waves of scales intermediate between scales of quasigeostrophic motion and scales of short gravitational waves. The plane stationary linear problem in the quasistatistical approximation is discussed. The equation for perturbations in the vertical velocity has a critical point at the altitude where the velocity of the basic flow is equal to f/k , where f is the Coriolis parameter and k is the horizontal wave number. The behavior of the solution in the neighborhood of this singular point is studied. Basic conclusions are: the flow of wave energy changes in a discontinuous fashion upon transition through the critical level, i.e., this level absorbs wave energy; a chain of undamped waves of length ~600 km is formed behind an obstacle. Ye. M. Pekelis.

1/1

USSR

UDC 612.8.015:612.58

EMIRBEKOV, E. Z., and MUKAILOV, M. I., Department of Biochemistry,
Dagestan State University

"Activity of Glutaminase of the Brain of a Hibernating Animal Under
Hypothermia"

Moscow, Biologicheskiye Nauki, No 12, 1971, pp 35-36

Abstract: This article reports the findings of tests conducted on gophers to determine how the activity of glutaminase 1 in brain tissue changes relative to various body temperatures. Readings of glutaminase activity from the cerebral hemispheres, the cerebellum, the mesencephalon, and diencephalon showed a decrease in activity with each drop in body temperature below normal. The largest percent decrease in glutaminase activity occurred at the 20°C point, and a small additional decrease was registered at 10°C. Hence, glutaminase is demonstrated to be sensitive to lowering of body temperature. Judging by results of other experiments concerning effects of hypothermia on hibernating and non-hibernating animals, the present findings also reveal that the increase in glutamine content observed in the gopher's brain corresponding to the decrease in glutaminase activity cannot trigger the release of ammonia into brain tissues.

1/1

USSR

UDC 542.91+532.954

DOVLATYAN, V. V., ^{probably correct} ELIAZYAN, K. A., Armenian Agricultural Institute. Yerevan

"Synthesis of Pesticides. 0-2-Methoxy-3,6(3,5)-dichlorobenzoylglycolic Acids"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 2, 1971, pp 187-188

Abstract: In connection with obtaining new pesticides, containing the lipophile (COOR) and hydrophile functions, 0-2-methoxy-3,5(3,6)-dichlorobenzoylglycolic acids were synthesized with conversion of the latter into water soluble sodium and trialkylammonium salts. The synthesis started with 0-2-methoxy-3,5(3,6)-dichlorobenzoylglyconitriles and the ethyl ether of 0-2-methoxy-3,6-dichlorobenzoylglycolic acid. The process leading to the formation of the desired acids, the reactions of 2-methoxy-3,6-dichlorobenzoyl chloride, cyanomethylation, and hydrolysis, are described.

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USSR

UDC 632.95

DOVLATYAN, V. V., and ELIAZYAN, K. A., Armenian Agricultural Institute

"Synthesis of Ethyl Esters of o-Dihalomethoxybenzoylglycolic Acids"

USSR Author's Certificate No 272961, Filed 20 Mar 68, Published 25 Apr 72
(from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 1(II), 1973, Abstract
No 1N510P by T. A. Belyayeva)

Translation: The title compounds possess herbicidal properties and are synthesized in the reaction of 2(4)-HOC₆H₄COONa with CH₂ClCOOEt (I) at 100-150°C in the presence of pyridine catalyst. Example. Thirty-two g 2-HOC₆H₄COONa, 36.75 g I and 0.6 g pyridine are stirred at 145-150°C for 4.5 hrs, filtered, extracted with ether, the extract is dried over MgSO₄, concentrated by evaporation. The reaction yields 35.5 g 2-HOC₆H₄COCH(OH)COOEt (II), b.p. 149-150°C, n_D²⁰ 1.5188, d₄²⁰ 1.2145. When HCl (gas) is passed through 10.3 g II in the presence of I₂ traces at 100°C, 12.9 g 2-HO-3,5-Cl₂C₆H₂COCH(OH)COOEt (III), m.p. 60°C (hexane) is obtained. 0.05 mole K₂CO₃ is added to 0.1 mole III in 50 ml acetone, the reaction mixture is heated to ~100°C, 0.1 mole Me₂SO₄ is added by drops, heated for 12 hrs, filtered and concentrated by evaporation. The reaction yields 72% 2-MeO-3,5-Cl₂C₆H₂COCH(OH)COOEt, b.p. 192-194°C/4, n_D²⁰ 1.5342, d₄²⁰ 1.3615.
1/1

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USSR

UDC 632.95

DOVLATYAN, B. B., ELIAZYAN, K. S., Armenian Agricultural Institute

"A Method of Obtaining 2-Hydroxy-4,6-bis-alkylamino-S-triazines"

USSR Author's Certificate No 357201, class C 07 d 55/12, filed 4 Nov 69, published 2 Feb 73 (from RZh-Khimiya, No 18 (II), Sep 73, Abstract No 18 N508 by I. A. Mel'nikova)

Translation: 2-HO-4-RR'N-6-RR''N-sym-triazines (I) ($R' - R'' = H, \text{alkyl}$) are obtained by treating the corresponding 2-chloro derivatives with AcOK in DMFA or AcOH. For example, a mixture of 20 g of 2-chloro-4,6-bis-ethyl-amino-sym-triazine, 9.8 g of AcOK, and 60 ml of DMF [dimethylformamide] is heated for 16 hours at 155 to 160° and filtered, after which the sediment is washed with water, producing 14.8 g of I ($R = H, R' = R'' = Et$), yield 80%, melting point 340°. I ($R = H, R' = Et, R'' = iso-Pr$), yield 76%, melting point 340°, is obtained in a similar manner. I are the principal metabolites of simazine and atrazine in plants.

1/1

- 31 -

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF DERIVATIVES OF AZOLES AND POLYMERS BASED ON THEM. VI.
SYNTHESIS OF PYRAZOLINE ALCOHOLS BY THE CONDENSATION OF HYDRAZINE WITH
AUTHOR--(04)--DARBINYAN, E.F., SAKYAN, A.A., YELIAZIAN, M.A., MATSOYAN, S.G.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(2), 180-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SYNTHESIS, PYRAZOLE, HYDROXYL RADICAL, HYDRAZINE,
MONOMER, POLYESTER RESIN, POLYAMIDE RESIN, POLYURETHANE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1845

STEP NO--UR/0426/70/023/002/0180/0184

CIRC ACCESSION NO--AP0123634

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HEATING OF H SUB2 C:CHC TRIPLE
BOND CC(OH)RR PRIME1 WITH H SUB2 NNH SUB2.H SUB2 O AT 120-30DEGREES GAVE
65-90PERCENT I (R AND R PRIME1 GIVEN): H, H; H, ME; ME, ME; ME, ET;
ME, PH; (CRR PRIME1 EQUALS) CYCLOHEXYL; (CKR PRIME1 EQUALS)
1,2,5,TRIMETHYL,4,PIPERIDYL: (CRR PRIME1 EQUALS) 2,2,DIMETHYL,4,PYRANYL.
THE ALK. HYDROLYSIS OF I GAVE 3,METHYL,2,PYRAZOLINE AND THE
CORRESPONDING RR PRIME1 CO. I ARE POTENTIAL MONOMERS FOR THE PREPN. OF
POLYESTER-POLYAMIDES AND (OR) POLYURETHANES. FACILITY: INST.
ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

USSR

DOVLATYAN, V. V., and ELIAZYSN, K. A.

"Synthetic Method for 2-Hydroxy-4,6-bis-alkylamino- Or Bis-dialkyl-amino-sym-triazines"

USSR Author's Certificate No 368260, filed 4 Nov 69, published 4 Apr 73
(from RZh-Khimiya, No 20, Oct 73, Abstract No 20N544P)

Translation: The synthetic method for 2-hydroxy-4,6-alkylamino or bis-dialkyl-amino-sym-triazines (I) is based on hydrolysis of the respective 2-cyano-methylhydroxy derivatives with concentrated hydrochloric acid and heating.
Example. A mixture of 2 g 2-NCCH₂O-4,6-(Et₂N)₂-sym-triazine and 8 ml 35%

HCl is heated for 4 hrs over a boiling water bath, then the mixture is evaporated almost dryness on the same bath, 10 ml of water is added, filtered, the filtrate is neutralized with sodium carbonate, the precipitate is suctioned off, dried in air to yield 93.45% of 2-OH-4,6-(Et₂N)₂-sym-triazine, decomposition point 173-5°.

Analogously following I were obtained (substituents in position 4 and 6, yield in %, decomposition point in °C being reported):
NH₂Et, NH₂Et, 91, > 340; NH₂Et, iso-PrNH, 98, > 340; NMe₂, NMe₂, 79 260-3.

I can also be obtained by acid hydrolysis of the respective 2-alkoxy derivatives.
1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHESIS OF AZOLE DERIVATIVES AND POLYMERS BASED ON THEM. IX.
SYNTHESIS OF N,ALKYL,3,VINYLPYRAZOLINE -U-
AUTHOR-(04)-DARBINYAN, E.G., SAAKYAN, A.A., YELIAZIAN, M.A., MATSOYAN, S.G.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(4), 290-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC AZOLE COMPOUND, PYRAZOLE, VINYL COMPOUND, ALKYL
RADICAL, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0805

STEP NO--UR/0426/70/023/004/0290/0291

CIRC ACCESSION NO--AP0136239

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0136239
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,ALKYL,3,VINYL,2,PYRAZOLINES (I)
WERE PREPD. FROM CH SUB2:CHC TRIPLE BOND CCH SUB2 OME AND N SUB2 H SUB4
.H SUB2 O VIA 3-(BETA, METHOXYETHYL)PYRAZOLINE (II). [I WAS ALKYLATED
WITH AN ALKYL HALIDE IN THE PRESENCE OF K SUB2 CO SUB3 AND THEN HEATED
IN VACUO WITH KOH TO ELIMINATE MECH. I WERE OBTAINED IN 35-73PERCENT
YIELD (ALKYL EQUALS ME, ET, PR, AND BU); THEIR PHYS. CONSTS. WERE
TABULATED. FACILITY: INST. ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

Graphite

USSR

UDC 621.98.03

~~probably~~ YELIMELAKH

SEVERDENKO, V. P., MURAS, V. S., and ELIMELAKH, S. Z., Physico
Technical Institute, Academy of Sciences, Belorussian SSR

"Analysis of Density and Volume of an Intermediate Graphite
Medium During Hot Hydrodynamic Extrusion"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh
Nauk, No 4, 1971, pp 18-22

Abstract: An experimental analysis was made of the relative
density of EG-0 type electrode graphite used as a plug in hot
hydrodynamic extrusion as a function of the specific pressure.
This graphite has an ultimate strength of 3.5 kg/mm^2 and an
initial density of 3.26 g/cm^3 . The volume of graphite was
calculated for various parameters of the extrusion process.
The extrusion of steels and alloys both with and without shaped
profiles was considered.

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UDC 620.191.032

USSR

SEVERDENKO, V. P., Academician of the Academy of Sciences Belorussian SSR,
MURAS, V. S., and ELIMEIAKH, S. Z. Physicotechnical Institute, Academy of
Sciences Belorussian SSR

"Determination of Thermophysical Properties of Intermediate Graphite Medium
in Hot Hydrodynamic Extrusion"

Minsk, Doklady Akademii Nauk BSSR, Vol 15, No 11, Nov 71, pp 981-984

Abstract: The article describes a procedure for determining thermophysical properties of the intermediate graphite medium in hot hydrodynamic extrusion. Brand EG-0 solid electrode graphite was used as the initial material. The thermal diffusivity, coefficient of thermal conductivity and specific heat of the graphite under various process conditions were determined. It is shown that close to isothermal conditions can be created for the hot hydrodynamic extrusion of metals and alloys.

1/1

USSR

UDC 612.883.81 + 613.648

KHARCHENKO, P. D., CHAYCHANKO, G. M., and ELMURATOV, S., Chair of the Human and Animal Physiology, State University Kiev

"Effect of X-ray Irradiation on the Conditioned Motor Reflex Activity of Young Rats"

Kiev, Fiziologichnyy Zhurnal, Vol 19, No 4, Jul/Aug 73, pp 441-448

Translation: Irradiation of young rats -- 3-4 months old -- with x-rays in doses of 500, 600, and 700 r leads to a disturbance of their conditioned reflex activity manifested by increased latent period and duration of the reflex, as well as in the number and magnitude of the interval reactions. At higher doses (600 and 700 r) these changes have a dual phase character: immediately after the exposure (1-7 days) and after a period of relative stabilization (18-24 days). The irradiation leads also to a dual phase lowering of the general activity of animals: on 5-7th and 18-24th days. The radiation effect is exhibited principally by a marked diminution of the inhibition process, which appears both early (4-7 days) and about 2-3 weeks after irradiation.

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USSR

UDC: 621.316.71-503.53:621.317.373

ARTYUKHOV, Ye. A., ELINSON, L. S., LUSKANOV, M. P., YURKOV, V. A.

"A Method of Tuning a Phase Shifter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 20, 1970, Author's Certificate No 273267, filed 13 Jan 69, p 49

Abstract: This author's certificate introduces: 1. A method of tuning a phase shifter based on comparing a given phase shift with the phase displacement of the phase shifter to be tuned in a phase tracking system with a pickup, an actuating motor and two communications channels with phase shifter-receiver, resistor-capacitor and resistor-inductor circuits in one of them. As a distinguishing feature of the patent, accuracy monitoring is simplified by setting the pickup shaft in a position in which the voltage across the series-connected rotor windings of the phase shifter is a minimum, then reversing the stator windings of the phase shifter while simultaneously changing the direction of the voltage in one channel by an angle of $+45^{\circ}$, and in the other by an angle of -45° , and adjusting the resistor-capacitor circuit of the phase shifter to reduce the difference in the position of the actuating motor shaft to zero. After this the pickup shaft is set in a position which minimizes the voltage across the windings of the phase shifter and the stator windings are reversed while simultaneously changing the

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USSR

ARTYUKHOV, Ye. A., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 20, 1970

phase displacement of the voltages in the channels and fixing the difference in the actuating motor shaft position. This difference is reduced to half by adjusting the resistor-capacitor circuit of the phase shifter, and reduced to zero by adjusting the phase shifting circuit in the channel without a phase shifter. 2. A modification of this method with the distinguishing feature that the pickup shaft is set in a position where the voltage across one of the rotor windings of the phase shifter is minimized, the stator windings of the phase shifter are reversed while simultaneously changing the phase displacement of the voltages in the channels, and the resistor-inductor circuit of the phase shifter is adjusted to reduce the change in position of the actuating motor shaft to zero.

2/2

- 113 -

1/2 008
UNCLASSIFIED
TITLE--PHOTOMETRIC DETERMINATION OF NIOBIUM BY MEANS OF
1,2-PYRIDYLAZO, RESORCINOL -U-
AUTHOR--(03)-KUCHMISTAYA, G.I., DOBKINA, B.M., ELINSON, S.V.
PROCESSING DATE--27NOV70
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM.; 25: 742-5 (APR 1970)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NIOBIUM METAL CHEMICAL ANALYSIS, COMPLEX COMPOUND, METAL
PHOTOMETRIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0730
CIRC ACCESSION NO--AP0126440
STEP NO--UR/0075/10/025/000/0742/0745
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126440

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPLEX COMPOUND NIOBIUM
TARTRATE WITH 1, (2, PYRIDYL AZO) RESORCINOL WAS STUDIED IN A STRONGLY ACID
(1 N) SOLUTION. DUE TO THE DIFFERENT IONIC STATES OF THE REAGENT IN A
STRONG ACID AND IN A WEAK ACID (PH 5 TO 6) SOLUTION THE NIOBIUM COMPLEX
COMPOUNDS FORMED DIFFER IN THEIR MAXIMUM ABSORPTION AND COMPOSITION. A
METHOD WAS DEVELOPED FOR DETERMINING MORE THAN 0.01 PERCENT OF NIOBIUM IN
ORES BY THIS METHOD. FACILITY: STATE SCIENTIFIC RESEARCH AND
DESIGN INST. OF RARE METAL INDUSTRY, MOSCOW.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SLOWING OF FAST CRACKS BY CERTAIN STRUCTURAL DEFECTS -U-
AUTHOR--(05)-FINKEL, V.M., VORONOV, I.N., SAVELEV, A.M., ELISENKO, A.I.,
FEDOROV, V.A.
COUNTRY OF INFO--USSR
SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, MAR. 1970, P. 8-16
DATE PUBLISHED----MAR70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--TRANSFORMER STEEL, CRACK PROPAGATION, LITHIUM FLUORIDE, SODIUM
CHLORIDE, LATTICE DEFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0122 STEP NO--UR/3663/70/002/000/0008/0016
CIRC ACCESSION NO--AP0123894
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123894

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. INVESTIGATION OF THE INTERACTION OF A FAST, BRITTLE CRACK WITH THE MECHANICAL TWINS IN TRANSFORMER STEEL AND WITH THE SLIP BANDS IN LiF AND NaCl CRYSTALS. FAST MICROKINEMATOGRAPHY AND PHOTOPLASTICITY METHODS WERE USED IN THIS STUDY. IT IS SHOWN THAT THE CROSSING OF TWINS OR SLIP BANDS BY A CRACK IS ACCOMPLISHED BY A HIGHLY PRONOUNCED SHEAR AND LOCAL PLASTIC STRAIN. THE AMOUNT OF TWINS AND SLIP BANDS FOR COMPLETE INHIBITION OF CRACK PROPAGATION IS DETERMINED FOR DIFFERENT INITIAL PROPAGATION RATES.

FACILITY: TAMBOVSKII INSTITUT KHIMICHESKOGO MASHINOSTROENIIA, TAMBOV, USSR.

UNCLASSIFIED

USSR

UDC: 542.91 + 632.954

E
DOVLATYAN, V. V., and ELIYAZYAN, K. A., Armenian Agricultural Institute, Yerevan, Ministry of Agriculture USSR

"Synthesis of Herbicides. Ethyl Esters of Dihalomethoxybenzoylglycolic Acids"

Yerevan, Armyskiy Khimicheskiy Zhurnal, Vol 23, No 4, 1970, pp 365-366

Abstract: Reaction of sodium 2(4)-hydroxybenzoates with ethylchloroacetates yielded ethyl esters of O-2(4)-hydroxybenzoylglycolic acids, which were then halogenated and methylated to yield ethyl esters of 3,5(6)-dihalo-2(4)-methoxybenzoylglycolic acids. Among them the ethyl esters of 2-methoxy-3,5-dichloro- and 2-methoxy-3,6-dichlorobenzoylglycolic acid exhibited highest herbicidal activity against dicotyledons.

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USSR

UDC 539.377

EL'-KARAMANI, A. M., Chair of the Theory of Elasticity
"Thermal Stress Concentration Around a Circular Hole In the Case of
Elastic-Plastic Strains"

Moscow, Vestnik Moskovskogo universiteta - Matematika, Mekhanika, No. 5,
Sep/Oct 71, pp 65-74

Abstract: The plane problem of the concentration of temperature stresses around a circular thermally insulated opening in a plate of strengthening material under small elastic-plastic deformations and in the presence of a steady-state temperature field with a constant gradient τ at infinity is examined and solved by the elastic solution method of Il'yushin. It is assumed that the mechanical properties of the material are independent of temperature. The components of the stress tensor are constructed in the first approximation and the regions of plastic action are determined to the zero and first approximation. The radial stress distribution is determined and a relationship is established between the stress intensity and the hardening parameters. The stress concentration factor for the circumferential stress is calculated and a relationship is established between the maximum value of this factor and the temperature gradient. Stresses at the most dangerous points on a given contour are determined.

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USSR

UDC: 51:621.391

KHARATISHVILI, N. G., CHKHEIDZE, I. M., ELIZBARASHVILI, I. M.

"Some Problems of Abbreviated Data Representation in Systems of Control, Measuring, and Monitoring"

Vladivostok, Inform. metody v sistemakh upr. izmereniy i kontrolya--sbornik (Information Methods in Monitoring and Measurement Control Systems--collection of works), t. 1, 1972, pp 48-53 (from RZh-Matematika, No 10, Oct 73, abstract No 10V424 by Yu. Lin'kov)

Translation: The paper deals with the question of approximating continuous

signals $f(t)$, $t \in [0, T]$ with the aid of functions $f^*(t) = \sum_{k=1}^n a_k \varphi_k(t)$, where $\{\varphi_k(t)\}$ is a

set of linearly independent functions and a_k are certain constants. It is shown that for signals $f(t)$ from the class of continuous functions or functions of the class $Lip_1 M$ the best uniform approximation with the limitation $\|f(t) - f^*(t)\| \leq \epsilon$ can be realized by partial Fourier-Haar sums. It is further shown that selecting a Haar system as the basis of the functions in the case of additive interference $\xi(t)$ which is a stationary process with correlation

1/2

USSR

KHARATISHVILI, N. G. et al., Inform. metody v sistemakh upr. izmereniy i kontrolya, t. 1, 1972, pp 48-53

function $\alpha \exp \{-\beta \tau\}$, $\alpha > 0$, $\beta > 0$, gives the approximation greater interference immunity than a trigonometric system or a system of Kotel'nikov readings.

2/2

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USSR

KHARATISHVILI, N. G., CHKHEIDZE, I. M. and ELIZBARASHVILI, I. M.

"Some Problems of Abbreviated Presentation of Information in Testing, Measurement and Control Systems"

Inform. Metody v Sistemakh Upr. Izmereniy i Kontrolya. T. 1 [Information Methods in Testing and Measurement Control Systems. Volume 1 -- Collection of Works], Vladivostok, 1972, pp 48-53 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V424)

Translation: The problem is studied of approximation of continuous

signals $f(t)$, $t \in [0, T]$, by means of functions $f^*(t) = \sum_{k=1}^n a_k \phi_k(t)$,

where $\{\phi_k(t)\}$ is the set of linearly independent functions, a_k are

constants. It is shown that for signals $f(t)$ from the class of continuous functions or functions of class $Lip_1 M$, the best even approxima-

tion, with the limitation $\|f(t) - f^*(t)\| \leq \epsilon$, can be achieved by partial Fourier-Haar sums. Furthermore, it is shown that the selection of the Haar-system functions as a basis in the case of additive noise $\xi(t)$, a stationary process with correlation function $\alpha \exp\{-\beta \tau\}$, $\alpha > 0$, $\beta > 0$, provides greater interference stability of the approximation than a trigonometric system or a system of Kotel'nikov readings.

YU. Lin'kov

USSR

KRAVCHENKO, V. P. and EL'KE, I. N.

"Extrapolator of Values of One Type of Random Function"

Izv. Vyssh. Ucheb. Zavedeniy. Priborostroyeniye [News of Higher Educational Institutions. Instrument Building], 1973, Vol 18, No 5, pp 63-67 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V182)

Translation: Problems of prediction by means of a filter of exponential smoothing of random function $Y(U)$ formed at the output of an element performing current addition of T values of input random function $X(N)$ are studied.

Author's view

1/1

Hydrobiology

USSR

UDC 576.8.097.29:591.524.1

STROGANOV, N. S., KHOMUT'YEV, V. G., KOLCSOVA, L. V., KOCHNIN, D. A., and
VLADIMIROV, G. E., Chair of Hydrobiology, Moscow State University named M. V.
Lomonosov, Moscow

"The Toxic Action of Some Organometallic Compounds on Aquatic Life. II. The
Action of Alkyl(aryl) Lead-Organic Compounds"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskkiye Nauki, No 3, 1971,
pp 21-24

Abstract: The action of the compounds Me_3PbCl (I), Me_2PbCl_2 (II), Et_3PbOH
(III), and Ph_3Pb (IV) on the algae *Scenedesmus quadricauda* and *Chlorella*
vulgaris and the crustacean *Daphnia magna* was studied. I, II, and III were
more toxic towards the *Daphnia* than the algae, whereas IV was more toxic
towards algae, exerting an algicidal effect even in a concentration of 0.01
mg/l, while producing no toxic action on the *Daphnia* in concentrations ≤ 8
mg/l. A compound with a selective action such as that of IV can be used for
the control of aquatic life in industrial water reservoirs in cases in which
the blooming of water must be suppressed, while it is desirable to preserve
the propagation of the zooplankton. Water from reservoirs of this type is
used neither for drinking nor for household purposes.

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Hydrobiology

USSR

UDC 576.8.097.29:591.524.1

STROGANOV, N. S., KHOBOT'YEV, V. G., KOCHKIN, D. A., KOLOSOVA, L. V., and
EL'KHANOV, G. E., Chair of Hydrobiology, Moscow State University imeni M. V.
Lomonosov

"Toxicity of Some Organometallic Compounds for Hydrobionts. I. The Effect
of Alkylmethacryloxyplumbanes"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 10,
1970, pp 13-17

Abstract: Experiments with organolead derivatives, tri- and di alkylmeth-
acryloxyplumbanes showed that these compounds are a thousand times more
toxic to the crustacean *Daphnia magna* Strauss than to the algae *Scenedesmus*
quadricauda and *Chlorella vulgaris*. Even at concentrations of 0.001 mg/
liter, the survival rate of the crustaceans was 10 to 75% lower than that
of the controls. The compounds were toxic to the algae only at concen-
trations of 0.5 to 1 mg/liter or higher. The survival rate of the crus-
taceans in solutions of the substances was very low by the 15th day,
whereas the number of algae decreased by only 50% during this time.
Toxicity was clearly manifested only at the 30th day, when the number
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USSR

STROGANOV, N. S., et al, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 10, 1970, pp 13-17

of cells decreased sharply. These results suggest that alkylmethacryloxy-plumbanes might be used in commercial bodies of water to suppress the population of certain zooplankton organisms.

2/2

- 10 -

USSR

PAISOV, I. V., AVRAAMOV, YU. S., LOKSHINA, L. I., EL'KHONES, N. M., and CHIKHLADZE, K. V., Moscow Institute of Steel and Alloys

"Influence of Germanium on the Structure and Properties of Steel"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 126-128.

Abstract: Steel with moderate and low carbon contents was produced in an induction furnace. The chemical compositions of the steels studied were, %:

C	Si	Ge	Mn	S	P
0.44	1.01	-	0.69	0.023	0.0096
0.44	-	1.00	0.60	0.017	0.0067
0.09	3.18	-	0.35	0.026	0.0084
0.057	-	3.18	0.73	0.026	0.0063
0.09	2.39	-	0.30	0.027	0.0054
0.067	-	2.24	0.84	0.027	0.0063

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USSR

PAISOV, I. V., et al., IVUZ Chernaya Metallurgiya, No 3, 1971,
pp 126-128

The steel alloyed with germanium has lower strength but much higher ductility than silicon steel. The sharp increase in ductility of this steel after annealing may be found very valuable in the production of thin sheet transformer and dynamo steel.

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Acc. Nr:

AP0041915

E

Ref. Code: UR 0245

PRIMARY SOURCE: Voprosy Psikhologii, 1970, Nr 1, pp 63-69
ON THE ROLE OF TIME FACTOR
IN MNEMIC ACTIVITY

D. G. ELKIN

Summary

Studying the role of time factor in mnemonic activity, the author has shown that after the repeated memorization of a series of words with «easy» elements at a certain place there occur in subjects conditioned reflex changes of memorization of an element at the corresponding place in the material where all words are of equal difficulty.

The changes of such kind representing a conditioned reflex to place in time sequence may involve facilitation or difficulty of memorization. The author interpretes these changes in terms of D. N. Uznadze's teaching of set and substantiates his theses by the gathered experimental material on some typological features of higher nervous activity of subjects.

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19751804

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UDC 911.3:616.34(575.1)

SHATROV, I. I., POKROVSKAYA, M. P., KRASKINA, N. A., BRAYNINA, R. A.,
ELKIN, I. I., SKVORTSOV, V. V., KILESSO, V. A., BUNIN, K. V., NIKIFOROV,
V. N., POKROVSKIY, V. I., and STARSHINOVA, V. S.

"Current Status of Typhoid"

V sb. Materialy XV Vses. svezda epidemiologiv, mikrobiologov i infektsion-
istov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference
of Epidemiologists, Microbiologists, and Infectious Disease Specialists,
Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269
(from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

Translation: During the last seven years, the incidence of typhoid has decreased each year by 6-7% on the average in this country. Maximum drops were observed in the Belorussian SSR, Kazakh SSR, Lithuanian SSR, Latvian SSR, Armenian SSR, and Estonian SSR; minimum drops were found in the Uzbek SSR and Kirghiz SSR. During the last two years, the incidence of typhoid was 10% higher among rural residents than among urban residents. In comparison with 1964, a drop in incidence of approximately 40% was observed; in rural locations, the drop was 23%. The leading significance of the water factor in transfer and distribution of the agent of typhoid is

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SHATROV, I. I., et al., Materialy XV Vses. syezda epidemiologiv, mikro-biologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

confirmed. Of decisive importance, particularly in recent years, is the nutritional (milk) factor of typhoid transfer and distribution.

2/2

1/2 049 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INFLUENCE OF THE INITIAL PHASE OF SHOCK WAVE REFLECTION FROM A WALL
ON THE STABILIZATION OF FLOW AND HEAT TRANSFER PROCESSES -U-
AUTHOR-(02)-DEMYANKOV, YU.A., ~~VELKIN~~, L.I. *correct as ELKIN* E
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA
JAN.-FEB. 1970, P18-24
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SHOCK WAVE REFLECTION, FLOW STABILITY, HEAT TRANSFER, ENTROPY,
EXTERNAL FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1787 STEP NO--UR/0421/70/000/000/0018/0024
CIRC ACCESSION NO--AP0112773
UNCLASSIFIED

2/2 049

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0112773

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF ONE DIMENSIONAL UNSTEADY FLOWS SHOWING THAT DUE TO THE CHANGES IN THE ENTROPY OF THE EXTERNAL FLOW, CAUSED BY THE INITIAL PHASE OF SHOCK REFLECTION FROM A HEAT CONDUCTING WALL, THE PARAMETERS OF THE INTERNAL FLOW WILL APPRECIABLY DIFFER AFTER ANY PERIOD OF TIME FROM THE PARAMETERS OF THE BASIC FLOW OBTAINED BY GOLDSWORTHY (1959). IN VIEW OF THIS, THE RELATIONS DESCRIBING THE STABILIZATION OF HEAT TRANSFER AND FLOW PROCESSES BEHIND THE REFLECTED SHOCK WILL ALSO DIFFER FROM GOLDSWORTHY'S RELATIONS.

UNCLASSIFIED

USSR

UDC 612.014.424:591.13+591.881

SHURANOVA, Zh. P., ERMISTROV, Yu. M., GVOZDIKOVA, Z. M., EL'KINA, G. A.,
Institute of Higher Nervous Activity and Neurophysiology of the USSR Academy
of Sciences, Moscow

"Circulation of Nerve Impulses in the Cerebral Cortex"

Moscow, Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 42-54

Abstract: The basic laws characteristic of multiple pulse discharges arising as a result of the circulation of excitation in the system of so-called lateral giant axons of the river crayfish which is a closed chain of a limited number (4-12) of neurons. In the effort to extend these laws to the neuron activity of the brain of a rabbit it turned out that 1) there are still no reliable data either for or against the proposition of the participation of reverberation processes in the genesis of the background activity of the cortical neurons; 2) the contribution of these processes to the organization of the neuron response to direct electrical stimulation under the conditions of the intact cortex has very low probability; 3) on the contrary, the proposition is made of the presence of the excitation circulation processes in the organization of the reaction to an analogous stimulation in a neuronally isolated strip of the cortex. The conclusion with respect to the possibility of circulation of an excitation in an isolated strip is based entirely on recording the
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-USSR

SHURANOVA, Zh. P., et al., Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 42-54

activity of individual neurons. It was shown that this mechanism probably begins during the recovery period after the inhibition interval. There is no absolute proof that the post-inhibition activation in the strip takes place by the reverberation mechanism, but the similarity of the group discharges of the neurons of the strip to the well investigated activity of the reverberation nature makes the proposition probable. An additional stimulation administered against the background of trace discharge of a neuron immediately stopped the pulsation. Three possible interpretations of this fact are presented.

2/2

- 50 -

1/2 021
UNCLASSIFIED
TITLE--EFFECT OF MICROGEL ON THE MECHANICAL PROPERTIES OF CIS, POLYISOPRENE
AND BUTADIENE, STYRENE RUBBERS -U-
AUTHOR--(04)--KULEZNEV, V.N. ~~ELKINA~~, I.A., VANKOVA, L.N., DOGADKIN, B.A.
COUNTRY OF INFO--USSR *correct as ELKINA*
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 381-387
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GEL, POLYMER RHEOLOGY, POLYISOPRENE, BUTADIENE STYRENE RESIN,
VULCANIZATE, MECHANICAL STRENGTH, RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1591
CIRC ACCESSION NO--AP0125213
STEP NO--UR/0069/70/032/003/0381/0387
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125213

ABSTRACT/EXTRACT--(U) GP-0--

ABSTRACT. THE EFFECT OF MICROGEL ON THE RHEOLOGICAL PROPERTIES OF CIS,POLYISOPRENE AND BUTADIENE,SYTRENE RUBBERS HAS BEEN STUDIED. MICROGEL ENHANCES THE EFFECTIVE VISCOSITY OF MIXES, REDUCES THEIR SHRINKAGE ON DISCHARGE FROM THE VISCOMETER CAPILLARY, INCREASES THE CRITICAL STRESS OF ELASTIC TURBULENCE AND HAS LITTLE EFFECT ON THE STRENGTH PROPERTIES OF VULCANIZATES, PROVIDED THE VULCANIZING SYSTEM IS PROPERLY CHOSEN. FACILITY: INSTITUT TONKOY KHIMICHESKOY TEKHNOLOGII IM. M. V. LOMONOSOVA MOSCOW.

UNCLASSIFIED

Acc. Nr: **A70036538**

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
PP 124 - 129

STUDY OF THE RADIATION CROSS-LINKING OF RUBBER IN
SYNTHETIC LATICES AND ARTIFICIAL AQUEOUS DISPERSIONS

El'kina, I. A.; Sandomirskiy, D. M.; Dogadkin, B. A.

Summary

The radiolysis of synthetic rubber latices has been studied. The rate of radiation cross-linking of polymer in a latex is much greater than in the bulk. The polymer cross-linking efficiency in a latex depends on the polymer hydrocarbon structure and on the colloid-chemical nature of latices. Stabilizers with a cyclic structure and small globules decrease the cross-linking rate. The radiolysis does not change essentially the colloid-chemical properties of latices.

D. A.

REEL/FRA

19721386

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USSR

UDC 621.373.029.7

NEKRASHEVICH, V.B., SHCHYNSHLEYGER, V.B., SHCHERBAK, V.F., EL'KIND, S.A.

"8-mm Wave Band Maser With Microcooler Creating A 35° K Temperature"

Radiotekhnika i elektronika, Vol XVII, No 7, July 1972, pp 1344-1345

Abstract: The paper describes work conducted on a 8-mm wave band maser operating at a ruby temperature on the order of 30--40° K. It was possible to obtain such a temperature from comparatively simple small-sized closed-cycle refrigerating machines (microcoolers). The resonator unit contains signal waveguides, pump waveguides, active resonators, passive resonators, coupling for connection with the microcooler, and the ruby. The amplifier contains a 10-8 microcooler, a vacuum chamber, the resonator unit described above, a magnet, a circulator, and a pumping bridge-divider. The authors thank M.P. Stolpyanskiy who participated in working out the design of the amplifier. 2 fig. 5 ref. Received by editors, 23 July 1971.

1/1

USSR

UDC 576.35(478)

MARITS, A. A., CHASHCHINA, I. N., CHERVINSKAYA, S. I., ELKIS, K. U., KORNES, R. V., BELYAYEVA, N. S., CHEBAN, Ye. D., KOTSEFAN, A. S., DOBRUSKINA, S. V., GURCHIOGLUYANTS, L. V., and MIKHAYLOVA, A. A., Moldavian Scientific Research Institute of Hygiene and Epidemiology and Kishinev Sanitary Epidemiological Station

"Fermentation Reaction Types and Colicinogenic Properties of Shigella Sonnei Circulating in the City of Kishinev, and Determining Their Sensitivity to Antibiotics"

Kishinev, Zdravookhraneniye, No 5, Sep/Oct 71, pp 7-9

Abstract: The Shigella sonnei strain accounted for 97.9-99 percent of the cases of dysentery in Kishinev in 1968-70. The object of this study was to identify the types of fermentation reactions of Shigella sonnei isolated in 1968-70 (4,507 cultures), and to study their colicinogenic properties and sensitivity to antibiotics. Shigella bacilli isolated from victims in 1968 were found to be primarily fermentation type II (71.4 percent); in 1969-70, type I bacilli predominated (66.4-94.1 percent); Shigella type III was most frequently isolated from the healthy. The results of studies on colicin production showed that, of 922 cultures, 842 were inactive with respect to E. coli K-12 and E. coli B and ϕ ; 76 cultures were colicin type K-12; 4, colicin type ϕ .

USSR

MARITS, A. A., et al., Zdravookhraneniye, No 5, Sep/Oct 71, pp 7-9

Among the K-12 type cultures, 54 percent were fermentation type I; 44.8 percent were type II; and 1.2 percent were type III. The cultures isolated in 1969 exhibited a gradual decrease of strains sensitive to levomycetin, and a growing number of strains sensitive to neomycin and monomycin.

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- 30 -

USSR

UDC 616.035:576.3

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MARIYS, A. A., CHASHCHINA, I. N., CHERVINSKAYA, S. I., ELAKIS, V. M., BELYAIEVA, N. S., CHEBAN Ye. D., KOTSEPAI, A. S., KORNES, R. B., DOBRUSHINA, S. V., GURCHIOGLUYANITS, L. V., and MICHAYLOVA, A. A., Moldavian Scientific Research Institute of Hygiene and Epidemiology, and Kishinev Sanitary Epidemiological Station

"Enzymatic Types of Sonnei Dysentery Pathogens Circulating in Kishinev"

Kishinev, Zdravookhraneniye, No 3, May/June 1970, pp 43-49

Abstract: The number of Sh. Sonnei strains isolated in Kishinev in 1968 was more than four times greater than in 1959. Many healthy individuals are carriers of these bacteria. A total of 1,714 cultures of Shigella Sonnei were investigated to determine their morphological, peptolytic, antigenic, and other properties, including their ability to ferment sugars to acids. Pathogens were classified into three enzymatic types. Type I -- cultures ferment rhamnose within the first 24 hours of incubation at 37°C, but do not ferment xylose for a week; type II -- cultures ferment rhamnose with a delay (after three to four days), or do not ferment either rhamnose or xylose; type III -- cultures ferment both sugars within the first 24 hours. Of the 1,714 cultures investigated, 71.4% belonged to type II, 21.5% to type I, and 7.1% to type III. The tests are fairly easy and can be performed in routine clinical laboratories.

1/1

1/2 026
UNCLASSIFIED
PROCESSING DATE--18SEP70
TITLE--THE DIFFERENTIAL DIAGNOSIS OF ACUTE PANCREATITIS AND MYOCARDIAL
INFARCTION -U-
AUTHOR-(03)-OSIPOV, B.K., SHIMELIOVICH, L.B., ELKONIN, B.L.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 4, PP 85-89
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIAGNOSTIC METHODS, PANCREAS, MYOCARDIUM, ELECTROCARDIOGRAPHY,
URINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1231
STEP NO--UR/0531/70/000/004/0085/0089
CIRC ACCESSION NO--AP0054126
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054126

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE PAPER DEALS WITH THE DIFFERENTIAL DIAGNOSIS OF ACUTE PANCREATITIS AND MYOCARDIAL INFARCTION IN CONNECTION WITH THE POSSIBILITY OF DEVELOPMENT OF THE PANCREATITIC SYNDROME OF MYOCARDIAL INFARCTION AND TRANSITORY ELECTROCARDIOGRAPHIC CHANGES IN ACUTE PANCREATITIS. IN THE AUTHORS OPINION AN INCREASED URINARY LEVEL OF DIASTASE COULD NOT SERVE AS A DECISIVE CRITERION OF THE DIFFERENTIAL DIAGNOSIS OF ACUTE PANCREATITIS AND MYOCARDIAL INFARCTION. AT THE SAME TIME, THE APPEARANCE OF AN ELECTROCARDIOGRAPHIC PICTURE OF MACROFOCAL MYOCARDIAL INFARCTION IN THE PRESENCE OF A MARKED AND EVEN PREDOMINANT ABDOMINAL SYMPTOMATICS IN COMBINATION WITH AN AUGMENTED DIASTASURIA MAKE IT POSSIBLE TO DIAGNOSE MYOCARDIAL INFARCTION WITH THE PANCREATITIC SYNDROME. SUCH PATIENTS ARE SUBJECT TO HOSPITALIZATION INTO THE THERAPEUTIC DEPARTMENTS FOR THE INSTITUTION OF THE REQUIRED CONSERVATIVE THERAPY. DIFFERENTIATION BETWEEN ISCHEMIC ELECTROCARDIOGRAPHIC CHANGES IN ACUTE PANCREATITIS AND MICROFOCAL MYOCARDIAL INFARCTION, WITH THE PANCREATITIC SYNDROME, IS POSSIBLE ONLY IN THE PROCESS OF DYNAMIC CLINICO ELECTROCARDIOGRAPHIC OBSERVATION.

UNCLASSIFIED

EL' KONIN, D. B.

Pedagogic
Sciences

PSYCHOLOGICAL PROBLEMS RELATED TO NEW TEACHING PROGRAMS

(Article by D.B. El'konin, Institute of General and Pedagogic Psychology, USSR Academy of Pedagogic Sciences, Moscow Branch, *Psichicheskaya Pedagogika*, 1973, No. 3, pp. 15-21)

The introduction of universal and complete secondary education and improvement of the quality of teaching in the schools, by changing the content of education closer to the present level of scientific and technical knowledge, are among the most important national objectives in our country.

The transformation of productive forces in a socialist society, against a background of the scientific and technological revolution, raises human development as one of the focal problems, being the chief productive force of our society.

"For an overtake rate of development of productive forces, the rate of scientific and technological progress must reach 7-10 percent per year. This means that each industrial worker has to double his knowledge, improve his skills and qualifications radically every 8-10 years."

The possibility of such continuous improvement of knowledge and skills is determined first of all by the knowledge that was absorbed in the course of compulsory secondary education and by the extent to which the acquired knowledge allows one to advance along with scientific and technological progress and on the same level as the latter.

L.I. Kravchenko and V.S. Matkov quote the data from the sociological investigation of V.A. Shuman indicating that the level of general education of workers affects the time they require to learn new types of work. Each grade of general educational training (from 6th to 11th) results in an increase of 50 percent faster learning of new types of work. A fifteen-year worker who has completed secondary school requires five times less time to be prepared in the next wage grade than a worker who has completed five or six grades. According to V.V. Kozlovich, the time required to teach the highest wage category for workers with secondary education and training in vocational schools is

Acc. Nr.

AP0037228

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Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye
Zabolevaniya, 1970, Nr 2, pp 14-17

HYPOTHALAMIC NEUROSECRETION AND THE STATE OF SUPRARENALS
IN DOGS EXPOSED TO VIBRATION

Kiseleva, V. I.; Gul'yants, E. S.; Ellenskiy, Yu. G.;
Gavrilova, T. M.

Summary

The response of hypothalamo-hypophysial-adrenal system to the effect of whole-body vibration (with frequency of 25 per/sec, vertical amplitude of 0.30 mm and horizontal one — of 0.13—0.14 mm) applied daily for one hour over different time-intervals (3, 10, 20, 50 and 90 days) was studied in 15 dogs through tracing neurosecretory material in the hypothalamus and micrometry of neurons, as well as by analyzing histochemically lipoids, ascorbic acid and chromophil elements in the adrenal glands. Vibration was found to produce after different time-intervals qualitatively dissimilar shifts in the hypothalamic neurosecretion function. Alternation of a stronger and weaker functional activity of neurons reflects the development of a phasic state. Final adaptation of hypothalamic neurosecretion to test conditions takes place by the 90th day of the observation. By this time the activity of the system under study proceeds at a higher functional level.

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TITLE--SYNTHESIS OF D,ERYTHRO,DIHYDROSPHINGOSINE -U-
AUTHOR-(04)-^{correct}ELLER, K.I., ZVONKOVA, YE.N., MITSNER, B.I., PREOBRAZHENSKIY,
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2/2 008 UNCLASSIFIED PROCESSING DATE--20NOV70
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPOXIDN. (SHOWN ON MICROFICHE).
RACEMIC II WAS RESOLVED INTO ITS OPTICAL ANTIPODES WITH L AND D, GLUTAMIC
ACIDS (H. E. CARTER, ET AL., 1953). FACILITY: MOSK. INST.
TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

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SEVAST'YANOV, V. G., ELLIERT, G. V., and SLOVYANSKIYKH, V. K., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Chemical Transfer of Uranium Sulfides and Selenides"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 1, Jan 72, pp 16-19

Abstract: Using the methods of chemical transport reactions, monocrystals of uranium sulfides and selenides were obtained. The yield of these reactions was studied as a function of initial bromine concentration, as the difference between the hot and cold zones, and, in case of uranium selenide, on the composition of starting selenide, while with the uranium sulfide - on the square of the ampule diameter. The temperature zones were 930° (t_{hot}) and 830° (t_{cold}), the ampule was 16 cm long, the starting sulfide had the formula $US_{1.5}$, and the initial concentration of bromine was 0.4 mg/cm^3 . The rate of uranium sulfide transfer depends on the diffusion of gaseous reaction products. In the experiment on the dependence of uranium sulfide crystals on the initial concentration of bromine it was shown that when the starting material was $US_{1.5}$, the U_3S_5 crystals grew throughout the entire range of bromine concentration; with $US_{1.8}$

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SEVAST'YANOV, V. G., et al., Zhurnal Neorganicheskoy Khimii, Vol 17, No 1, Jan 72, pp 16-19

at the starting point, the $US_{1.87}$ and $\beta-US_2$ crystals grew in the concentration ranges 0-0.4 and 0.4-1.2 mg/cm³ Br respectively, while the increase of bromine concentration to more than 1.2 mg/cm³ leads to the formation of $\beta-US_2$ and UOS mixtures. When the difference between the zone was plotted against the yield of the product, it was found that $US_{1.87}$ increases linearly with the difference, and U_3S_5 goes through a maximum at 200° down to 0 yield at 400° difference between the hot and cold zones. Both phenomena are ascribed to the increase in the difference of partial pressures of gaseous phase components. When U_3Se_5 yield was studied as a function of the composition of starting material 2- the curve showed a complex pattern; depending on the starting material the products changed from U_3Se_5 through $USe_{1.87}$, $\alpha-USe_2$, $\beta-USe_2$ to USe_3 .

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UDC 546.791.4'241

ELLERT, G. V., and SLOVYANSKIY, V. K., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Uranium Ditelluride"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 2, Feb 72, pp 574-575

Abstract: UTe_2 was prepared by the sublimation in vacuo of a mixture of U and Te with 90 atom % Te as described by Ellert et al earlier (Zh. Neorg. Khim., 16, 1721, 1971). At $630-950^\circ$ the product formed had a constant composition close to the stoichiometric one corresponding to the formula UTe_2 . An X-ray diffraction study of UTe_2 single crystals prepared by chemical transfer with Br_2 from a hot zone at 850° to a cold zone at 800° showed that the compound crystallized in the rhombohedral system ($a = 4.17$, $b = 6.14$, $c = 13.97$ Å) and not, as reported in the literature on the basis of studies on UTe_2 powder, in the tetragonal system.

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UDC 546.791.4-386

ELLERT, G. V., BOLOTOVA, G. T., and KRASOVSKAYA, T. I., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Formation of Uranium (IV) Sulphate Complexes With Tributylphosphine Oxide"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 3, Mar 71, pp 789-792

Abstract: Employing the extraction method it was determined that neutral and acid complexes of uranium (IV) are extracted from sulphate media into benzene solution of tributylphosphine oxide (TBPO) with following TBPO:U ratios: 3:1 in case of neutral complexes, and 2:1 and 1:1 in acid complexes. When complexing with uranium sulphate, TBPO may bind directly to uranium -- in neutral complexes --, or through the protons -- in acid complexes. The U-TBPO bond is comparable strengthwise with the U-SO₄ and TBPO-H bonds. It may be assumed that even in acid complexes the TBPO molecules are located close to the uranium atoms, since on standing they convert easily to the insoluble neutral complex U(SO₄)₂·TBPO, in which the TBPO molecules are bound directly to uranium.

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ALIKHANOVA, Z. M., and ELLERT, G. V.

"Uranyl and REE Pentaacetates and Pentapropionates"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 1, Jan 71, pp 120-124

Abstract: Lanthanum oxide was heated to complete solution in propionic acid and mixed with an aqueous solution of uranyl propionate. After 5-7 days crystals appeared which were then recrystallized from methanol. The following complexes were obtained in this manner: $\text{LnUO}_2(\text{CH}_3\text{COO})_5 \cdot n\text{H}_2\text{O}$ where $\text{Ln} = \text{La}$, Nd , and $n = 2$ or 3 , and $\text{LnUO}_2(\text{C}_2\text{H}_5\text{COO})_5 \cdot n\text{H}_2\text{O}$ where $\text{Ln} = \text{La}$, Nd , Eu , and Ce , and $n = 2$ or 3 . On the basis of molar electroconductivity and cryoscopic determinations it was shown that these complexes were nonelectrolytes. It was proposed that the acids-group serves as a bridge between the uranyl and lanthanide moieties.

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ELLERT G.V.

73098j Glass for laser generators and laser amplifiers. Buzhinskii, I. M.; Zhabotinskii, M. E.; Rudnitskii, Yu. P.; ~~Sapozhnikov, V. V.~~; Tsapkina, I. V.; Ellert, G. V. (Institute of Radio Engineering and Electronics, Academy of Sciences, U.S.S.R.) Brit. 1,177,731 (Cl. C 09k), 14 Jan 1970, Appl. 01 Jan 1968; 5 pp. A laser generator or amplifier glass is described which is composed of 1 or more alkali metal oxides, Nd oxide, 20 to 90% by wt. P_2O_5 , and an additive consisting of an Al halide and/or a Sn halide. The total wt. percentage of the additive is ≤ 20 . To illustrate, a glass is obtained from an original stock composed of a mixt. of finely crushed $LiPO_3$ 39, $NaPO_3$ 46, $AlPO_4$ 7, AlF_3 4.7, and Nd_2O_3 3.3% by wt. by melting in a quartz crucible at 850 to 1050° during 3 to 6 hr and under const. stirring with a quartz agitator. Discharge of finished glass and its annealing are carried out in accordance with the production techniques usually adopted in the silicate-glass manufacturing art. The product, capable of emitting light energy on the 1060 nm wavelength, is composed of Li_2O 8.2, Na_2O 17, Al_2O_3 4.0, AlF_3 7.7, P_2O_5 60, and Nd_2O_3 3.1%. Its specific wt. is 2.52 g/cm³ and n 1.524. The spectral-luminescent characteristics of the glass are: half-width of the luminescent band at 1060 nm ~ 16 nm; life-

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time of Nd^{3+} when excited 250×10^{-8} sec; quantum yield of luminescent energy at 1060 nm, 0.4 ± 0.05 ; inactive absorption at 1060 nm $> 10^{-3} \text{ cm}^{-1}$. The generation threshold of a light quantum generator employing the proposed material is substantially lower than in the case of silicate glass. The spectrum of a laser based on phosphate glass is practically independent of the pumping level equalling 6 Å in a strip-line resonator and 3 Å in a spherical-cavity resonator. The above-described method of obtaining the glass allows emission at 1060 nm for pumping sources at 7000°K.

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ELLERT, G. V., TSAPKINA, I. V., BARANOVA, L. P.

"Mixed Crystals of Compounds with Complex Cations $[\text{UO}_2\text{4CO}(\text{NH}_2)_2\text{H}_2\text{O}]_2^{2+}$ and $[\text{UO}_2\text{5CO}(\text{NH}_2)_2]^{2+}$ "

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 7, 1970, pp 1891-1893

Abstract: This study deals with synthesis of compounds based on carbamide complexes of uranyl. The investigation concerned reactions of aquotetracarbamidouranyldinitrate $[\text{UO}_2\text{4KaH}_2\text{O}](\text{NO}_3)_2$ (I) $\text{Ka-Co}(\text{NH}_2)_2$ and pentacarbamidouranyldinitrate $[\text{UO}_2\text{5Ka}](\text{NO}_3)_2$ (II) with sodium halogenides NaH ($\text{H} = \text{Cl}, \text{Br}, \text{I}$) in aqueous and alcoholic solutions. It was found that in aqueous solutions only one nitrate ion in (I) is replaced by a halogen ion. Here the nitrateiodides and nitratebromides form mixed crystals of composition $[\text{UO}_2\text{4KaH}_2\text{O}]\text{H}_x \cdot (\text{NO}_3)_{2-x}$ ($\text{H} = \text{I}, \text{Br}; x = 0-1$). In similar conditions the chloridonitrate forms two individual compounds $[\text{UO}_2\text{4KaH}_2\text{O}]\text{ClNO}_3$ and $[\text{UO}_2\text{4KaH}_2\text{O}]\text{Cl}_{0.5}(\text{NO}_3)_{1.5}$. In alcoholic solutions two nitrate ions can be replaced by one iodine ion in (I), yielding $[\text{UO}_2\text{4KaH}_2\text{O}]\text{I}_2$ and $[\text{UO}_2\text{4KaH}_2\text{O}]\text{I}_x(\text{NO}_3)_{2-x}$ ($x = 1.4-2$). In (II), both in alcoholic and aqueous solutions, both

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pp 1891-1898

nitrate ions can be replaced by iodine ions. Formation of nonstoichiometric
nitratoiodides of composition $[\text{UO}_2.5\text{Ka}(\text{NO}_3)_{2-x}]$ ($x = 1.43-1.27$) was observed. A
compound of composition $[\text{UO}_2.5\text{Ka}]-\text{NO}_3\text{Cl}$ was isolated.

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